ON THE NAMES USED BY BOLTEN AND DA COSTA FOR GENERA OF VENERIDÆ.

By A. J. Jukes-Browne, F.R.S., F.G.S.

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Introductory.

I assume that the members of this Society desire to adopt the Rules of the International Commission on Zoological Nomenclature, and to apply them to the fixation of generic names, so that we may at length obtain that great desideratum in Biology, a common international generic nomenclature for all classes of animals.

The rules of the Commission were first separately printed in 1905 at Paris, in three languages (French, English, and German), and are obtainable from F. R. de Rudeval, 4 Rue Antoine Dubois, Paris. The starting-point of our nomenclature is the tenth edition of Linnæus' *Systema Naturæ*, issued in 1758; and under these rules a genus is a group of organisms, bearing the earliest name applied to any of them on or after that date, the application of this name being fixed by the designation or selection of a type-species, which then becomes the genotype.

Rule 30 deals with the designation and selection of types, but the original rule was altered by the Commission in 1907, and the designation of types was made clearer and more definite. Moreover, the following important clause was added: "The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type."

It is desirable that all conchologists should fully realize what this last paragraph involves. It is well known that the older authors, including Lamarck and Cuvier, had no idea of basing their genera on single typical species. Their idea of a genus was a group of organisms which had certain characters in common, so that the group could be defined by a description of those characters; and they gave sometimes one species, sometimes two or more, as examples of the generic group.

I am not aware when and by whom the modern idea of a genotype was first introduced; it may have been adopted by botanists before it was used in zoology. In our branch of science it seems to have been recognized about 1840, for the idea is clearly presented by Dr. J. E. Gray in 1847.[1] He, however, took single examples given by Lamarck, Montfort, Megerle von Muhlfeldt, and others as types, without any critical distinction between genera proposed by these authors and genera that were merely restricted by them. In this he has been followed by most subsequent authors, but the new rule clearly introduces such a distinction.

It is clear that, when an author proposes a new genus and cites only one species, this species becomes *de facto* the genotype (Rule 30,

[1] Proc. Zool. Soc., pt. xv, p. 129. A paper entitled "List of the Genera of Recent Mollusca, their Synonyma and Types".

a and *c*); but when an author cites a single example of a previously established genus, even if he restricts that genus by the abstraction of some of its members to form a new genus, his example is not strictly the designation of a type.

This interpretation of Rule 30 will make it necessary to revise the history of certain names, especially some of those in Lamarck's list of 1799, in order to ascertain whether his examples can be accepted as types. In many cases it may be possible and desirable simply to confirm his selection and to secure the continuance of existing nomenclature by definitely designating his examples as types. In some cases, however, this course may not be desirable, but such cases should be very carefully considered before any change is made, for another clause of Rule 30 makes such a change, once effected, unalterable.

Again, the rule of establishing the names which were properly used and published by the earliest author after 1758 has not yet been fully complied with, especially in regard to some of Bolten's and Da Costa's names. With regard to the use of Bolten's names (Museum Boltenianum, 1798), I agree with Dr. Dall that if Mörch's names are accepted those of Bolten cannot be disallowed; the two catalogues stand on precisely the same footing, for both give examples of well-known species as examples of their groups.

With respect to Da Costa, one of his names (*Glycimeris*) has been generally adopted with his application of it, but there are two others which must be recognized, for his *British Conchology* was published in 1778, a date which gives it priority over both Bolten and Lamarck.

The names that will be dealt with in the following pages are *Venus*, *Paphia*, *Gafrarium*, *Cytherea*, *Pectunculus*, and *Cuneus*.

Venus.

The history of this name and its applications is a curious one, for the large group of shells to which Linnæus gave the name included practically the whole family Veneridæ with several other genera which have since been relegated to other families.

The first author to divide the Linnæan genus was Bolten, who distinguished four groups of species under the names of *Paphia*, *Gafrarium*, *Cytherea*, and *Venus*, mentioning certain of each, but not designating types. Bolten's groups are heterogeneous assemblages, for he seems to have classified them by external characters only, such as shape and sculpture; but they have to be recognized, and Dr. Dall has already selected types for *Paphia*, *Gafrarium*, and *Cytherea*,[1] all of which will be discussed in the sequel.

Bolten's *Venus* still remained a large and varied assemblage, but of course it does not follow that the type of *Venus* must be one of the species mentioned under this head by Bolten; it may or might have been chosen from the original assemblage of Linnæus, if that included other species which did not belong to Bolten's other groups, when determined by properly selected types.

[1] Trans. Wagner Free Inst. Sc., vol. iii, pt. iv, 1902.

First, then, it is necessary to ascertain whether any subsequent author has designated a type for *Venus* in accordance with the provisions of Article 30 of the Rules. Dr. Dall, in the publication above referred to, supposed that Lamarck had done so by giving *V. mercenaria* as the sole example of the genus as understood by him in 1799, after the separation of a group with lateral teeth which he then called *Meretrix*. We have seen, however, that the citing of a single example by any author subsequent to its first publication does not constitute the proper selection of a type. Hence Lamarck did not fix the application of the name *Venus* any more than Bolten did.

That Lamarck had no idea of typical species, and no intention in 1799 of citing *V. mercenaria* as other than merely a common exemplar of the genus, is proved by the fact that only two years later he published his *Système des Animaux Invertebratés*, and in that he gave *V. verrucosa* as the sole example of the same genus. Moreover, in the Preface to the *Système* of 1801 he expressly states—"j'ai cité sous chacun d'eux (i.e. des genres) une espèce connue, ou très rarement plusieurs, et j'ai joint quelques synonymes que je puis certifier; cela suffit pour me faire entendre."

Finally, in his *Histoire des Anim. sans Vert.* of 1818, where he gives all the species of *Venus* known to him, he does not mention any typical species, but divides the whole assemblage into two groups—(1) those with crenulated margins, (2) those with smooth margins. The first species of the first group is *V. puerpura*, though, of course, *verrucosa* and *mercenaria* come under the same heading.

Other authors who published schemes of classification about the same time, such as Link (1807), Megerle (1811), Cuvier (1817), and Schumacher (1817), treated the *Venus* of Linnæus in the same way, i.e. they separated certain generic groups and left the remaining species under the head of *Venus*. Even Megerle, who gives *V. dione* as the sole example of his restricted genus, evidently meant it to include the same group of species which Lamarck had already called *Meretrix*, i.e. all the species which were not included in his *Chione*, *Tapes*, *Trigona*, and other genera which he had separated from the *Venus* of Linnæus.

For many years after the publication of Lamarck's *Histoire des Anim. sans Vert.* most conchologists simply accepted the genera founded by him, but in 1838 J. E. Gray published a "Catalogue of the Species of the genus *Cytherea*",[1] subdividing it into sections or subgenera for which he adopted some of the names proposed by the authors above mentioned, and employed a new one of his own (*Dosina*) for the *puerpura* and *verrucosa* group; but he did not then attempt to define the genus *Venus*.

In 1847, however, Gray made an attempt to determine the types of all the genera of Mollusca recognized by him at that date.[2] This was a praiseworthy endeavour to establish these genera on a proper basis, but unfortunately he was rather arbitrary in his selection of types,

[1] *The Analyst*, vol. viii, p. 302.
[2] Proc. Zool. Soc., 1847, p. 183.

and he candidly admits the difficulty of designating the type-species in the case of authors "who only give the genera and simply mention one or two examples as the types of their genus".

In this publication he abandons his name *Dosina*, and under the head of *Venus* he cites the example (*V. verrucosa*) given by Lamarck in 1801, instead of that given in 1799, and does not adduce any reason for selecting the one rather than the other. It is clear, however, that he is not himself designating a type, but supposes that he is indicating what Lamarck meant to be his type. At the same time there is no doubt that he thought he had fixed what ought to be known as the genus *Venus*. Hence a few years later we find Deshayes, in a British Museum Catalogue published under Gray's supervision, referring to Gray's group of 1847 as "genus emendatum, rectius circumscriptum".[1] At the present day there is no unanimity about the application of the Linnean name; some following Gray in applying it to the *puerpura* and *verrucosa* group; some, like Fischer (1887) and Dall (1903), preferring Lamarck's earlier example (*V. mercenaria*) as the type.

Thus we arrive at the conclusion that no one has yet properly selected a type for *Venus*; the original Linnean genus has simply been broken up into a number of genera and subgenera, each individual author reserving a genus *Venus* and mentioning one or more species as examples to indicate his conception of it, but without making any definite selection of a type-species.

Consequently it is necessary to review the whole question in order to ascertain what species ought to be regarded as the type of the genus. In doing this I shall try to follow the rules and recommendations of the International Commission as far as possible. In the first place the species chosen must be among those mentioned by Linnæus. Secondly, Recommendation *k* says: "If some of the original species have later been classified in other genera, preference should be shown to the species still remaining in the original genus." In this case the original genus is what would now be called a family, and all the species have been assigned by different authors to subsequently created genera. It is impossible to proceed by the simple elimination of genera; moreover, Bolten's subdivisions were mere arbitrary assemblages, not distinguishable from one another by any common generic characters; so that Lamarck was really the first to make a reasonable and truly scientific division of the Linnean *Venus*. I think, therefore, everyone will admit that the type of *Venus* should be selected from among the species classed by Lamarck under that name, after the separation of those which possess conspicuous lateral teeth, and after the separation of some Linnean species which belonged to very different genera. At the same time it will be desirable to avoid choosing any species actually mentioned by Bolten under his divisional names of *Paphia*, *Gafrarium*, and *Cytherea*.

Coming, then, to the consideration of the Lamarckian species of *Venus*, we must remember that many more species were known to Lamarck than to Linnæus, and that none of these are eligible. All

[1] *Catalogue of the Bivalve Shells in the British Museum*, 1853, p. 98.

the Lamarckian species have been included under one or other of the following names, whether these be regarded as genera or subgenera:—

Chione (Megerle, 1811).
Tapes (Megerle, 1811).
Mercenaria (Schumacher, 1817).
Anomalocardia (Schumacher, 1817).
Clausina (Brown, 1827).
Gomphina (Mörch, 1853).
Circomphalus (Mörch, 1853).
Marcia (H. & A. Adams, 1857).
Katelysia (Römer, 1857).
Hemitapes (Römer, 1857).

Presumably the proper procedure in such a case is to displace one of the most recently formed genera by taking its type as the type of *Venus*, provided that the species is otherwise eligible for selection. Now of the species referable to *Marcia*, *Katelysia*, and *Hemitapes*, none were known to Linnæus, neither were the species of *Gomphina*. Again, the type of *Clausina* (*V. verrucosa*) is one of those mentioned by Bolten under *Cytherea*, and *Circomphalus* is only a subgenus of this group, by whatever name it may be known.

Chione and *Tapes* are eliminated as being of earlier date than Schumacher's divisions, and I regard *Anomalocardia* as merely a subgenus of *Chione*, so that if its type were chosen to be that of the genus *Venus* it would elevate a small group to higher rank than a large one. The only remaining group is that of *Mercenaria*, which is based on the *V. mercenaria* (Linn.), a shell mentioned under *Venus* by Bolten, and given by Lamarck as his example of *Venus* in 1799. The selection of this species has the advantage of confirming Dr. Dall's choice which was made before the promulgation of the strict rule by the International Commission. This is a satisfactory conclusion because further alteration is thereby avoided, and Dr. Dall's nomenclature has already been accepted by Australian and New Zealand conchologists.

I am not inclined, however, to follow Dr. Dall in restricting the genus to the small group of shells typified by *V. mercenaria*. I am by no means sure that it is generically distinct from *Chione*, and I am quite unable to understand why Dr. Dall separated the '*Venus*' *Dombeyi* group from his *Venus* and *Chione* groups. He unearthed Molina's name of *Thaca* for *V. Dombeyi*, and made it the type of a new subgenus for which he proposed the name of *Protothaca*; but instead of placing this under *Chione* he classed it under *Tapes* (i.e. *Paphia*).

In reply to inquiry as to its affinities with *Tapes*, the only reason he gave me was that he may have been biassed by the fact that the North American species had usually been called *Tapes*! As these shells have the hinge of *Chione* and *Venus*, a strong radial sculpture which is seldom found in *Tapes*, and crenulated valve-margins, I regard them as very closely allied to the two former groups, and very distinct from the last.

Protothaca only differs from *Venus* in having a strong radial sculpture and in the absence of rugosities on the posterior teeth, but the latter character is not of generic importance, for such rugosities are present in several species of *Chione*. Again, while the typical section of *Chione* has strong radial structure, other sections have only concentric ribs or riblets. If all are regarded as included in the

genus *Venus*, this can be described as having normally a cancellate structure, the radial element sometimes becoming obsolete except along the valve-margins, which are always crenulated.

Cytherea (Bolten).

The revival of a name which has been associated for a long time with one group of shells but displaced by an older one, and its subsequent application to another group, is a very irritating consequence of the modern rules of nomenclature. If, however, we are to adhere strictly to the rule of priority and to definition by genotype, such transferences of names must sometimes be the result; and it is so in the case of the name *Cytherea*.

Every conchologist knows that this name was used by Lamarck in 1806 because he repented of having adopted the name *Meretrix* for a certain genus in 1799, but under the law of priority even the author of a genus cannot abandon his earlier name, and consequently *Meretrix* has displaced *Cytherea* for the group of which *Venus meretrix* (Linn.) is the type.

Lamarck, however, was not the first to employ the name *Cytherea*, for, as we have seen, Bolten had given it to one of his divisions of *Venus*. His *Cytherea* was a very heterogeneous assemblage, for the species which he included therein belong to several different genera, and seem to have little in common. His first species is *V. granulata*, Gmel. (a *Chione*), the second is *V. tigrina* (a *Codakia*), two belong to *Circe*, five to *Dosinia*, and the remaining three are *V. puerpura*, *V. rugosa*, and *V. verrucosa*.

In dealing with this assemblage for the purpose of selecting a type, Dr. Dall rightly eliminated the species belonging to genera established by Scopoli, Megerle, and Schumacher, and then remarked that "Schumacher's names reduce *Cytherea* (Bolten) to Veneridæ of the type of *V. puerpura*, for which it must be retained".

This selection by Dr. Dall is unalterable, unless it can be shown that there was an earlier selection of type, as in the case of *Gafrarium*. So far as I can ascertain, no one else has noticed or commented on Bolten's use of *Cytherea* except the Messrs. H. & A. Adams, and they seem to have overlooked it when compiling their arrangement of Veneridæ, for it is only in their Corrigenda at the end of vol. ii, *Genera of Recent Mollusca*, that we find "for *Timoclea*, Leach, read *Cytherea*, Bolten". Clearly they would have taken Bolten's first species as the type of his group, but such a note in the corrigenda of a book is certainly not a proper designation of a type; consequently it counts for nothing.

We have seen that Gray in 1847 chose to regard *Venus verrucosa* as the type of *Venus*, because Lamarck had given that species as an example in 1801; but that Lamarck's examples were not intended to be taken as types, and that Gray cannot be said to have made a selection from the whole group *Venus* of Lamarck. Hence I regard Dr. Dall's selection of *V. puerpura* as the type of Bolten's *Cytherea* as a valid designation.

The genus *Cytherea* (Bolten) will include the following sections:—

Cytherea (s.s.), with type *V. puerpura*, Linn.
Section 1. *Clausina* (Brown); type, *V. verrucosa*, Linn.
Section 2. *Ventricola* (Römer); type, *V. rugosa*, Gmel.
Subgenus *Artena* (Conrad); type, *Venus staminea*, Conrad, 1842.
(= *Antigona*, Schumacher, non *Antigonus*, Hubner, 1816.)
Subgenus *Circomphalus* (Mörch); type, *V. plicata*, Gmel.

Gafrarium.

The assignation of this name requires discussion, because it appears to have been fixed by Messrs. H. and A. Adams in 1857, and if this is so Dr. Dall's more recent selection of a different type cannot be allowed.

As already mentioned, the name was employed by Bolten for one of his divisions of the Linnean *Venus*, but he only included three species under it, and these only agree in having a strong cancellate structure. Moreover, they possess no character by which they can be distinguished as a group from his next division, which he called *Cytherea*. It happens, however, that the first species is *Venus fimbriata* (Gmel.), which Cuvier afterwards called *Corbis*; the second is *V. pectinata* (Gmel.) and varieties; the third is *V. reticulata* (Gmel.).

When Dr. Dall was dealing with Bolten's divisions of *Venus* in 1902, he seems to have thought that he was at liberty to make his own choice of a type for each and all of them, and acting in the spirit of the Recommendations of the International Commission he sought to displace the latest formed generic name. Thus, of *Gafrarium* he wrote: "*Gafrarium* (Bolten) is by this time [1817] relieved of the genus *Corbis*, and retains only *V. reticulata* and the *Circes* of the group later called *Crista* by Römer. *V. reticulata* belongs to *Cytherea* (Bolten)." These last words mean that by his selection of *V. puerpura* as the type of Bolten's *Cytherea*, *V. reticulata* belongs to that genus. Thus he is led to make *V. pectinata* the type of *Gafrarium*, which consequently in his scheme becomes a genus, with the *Circe* of Schumacher as a subgenus (type *C. litterata*).

This selection would be perfectly correct and unalterable if no previous selection of a type had been made. Dr. Dall, however, appears to have overlooked the fact that Messrs. H. and A. Adams[1] definitely adopted Bolten's name *Gafrarium* as a genus in the place of *Corbis*, giving *V. fimbriata* as their figured example. It is true that they did not definitely designate this species as the type of the genus, and that they recognized four other species of *Gafrarium* (or *Corbis*), but these so-called species are now admitted to be merely varieties of *V. fimbriata*, and Dr. Dall himself, writing of the genus *Corbis* in his "Synopsis of the Lucinacea",[2] says: "The type and sole recent species is *Venus fimbriata*, Linn."

Hence the genus, by whatever name it is called, is monotypical, and the Messrs. Adams applied Bolten's name *Gafrarium* to a species

[1] *Genera of Recent Mollusca*, vol. ii, p. 470, 1857.
[2] Proc. U.S. Nat. Museum, 1901, p. 816.

which is a monotype, and must therefore be a genotype. It seems to me, therefore, that they really made a definite selection of a type for the genus *Gafrarium*, and that their application of the name should be accepted in preference to that of Dr. Dall. In other words the name *Gafrarium* should take the place of *Corbis*, and *Circe* should remain as a genus of Veneridæ, with *Crista* (Römer) as a subgenus.

PAPHIA (Bolten).

Paphia is a name which has unfortunately been applied to very different shell-groups by different writers, but we are bound to go back to the author who first used the name in binomial nomenclature, and to select a type from the species of his group. The first author in this case is Bolten, and his *Paphia* only included six species, namely, *Venus ala-avis*, better known as *V. gigantea*, Gmel., *V. Meroe* (a *Sunetta*), and four species of *Tapes*. Now *Sunetta* was established as a separate genus by Link in 1807, and *Tapes* by Megerle in 1811, while *Venus gigantea* was not separated from *Meretrix* and *Callista* till 1876 (as *Macrocallista*, Meek). It is therefore Meek's name which should have given place to Bolten's, and *Paphia* should have replaced *Macrocallista*.

Unfortunately, when Dr. Dall adopted Bolten's names for genera of Veneridæ he did not do this. His discussion of the matter is brief and incorrect, for he wrote: "From *Paphia*, Bolten, *Sunetta* and *Meretrix* have been eliminated, leaving only species of the genus ordinarily called *Tapes*, which must retain Bolten's name."[1] It is clear that he intended to choose the type by elimination, and that the mention of *Meretrix* is a mistake, for on p. 1220 he had properly referred *V. gigantea* to *Macrocallista*, which was proposed by Meek as a subgenus of *Callista* (Poli), not of *Meretrix* as restricted by Dall himself and typified by the *V. meretrix*, Linn. He should have eliminated the species of *Tapes*, and have attached the name *Paphia* to *V. ala-avis*. This application of the name would have been a satisfactory solution of the *Callista* difficulty, whereas the displacement of *Tapes* is very inconvenient and irritating, on account of its having been constantly used in conchological nomenclature for sixty or seventy years. It is a question, however, whether anyone is at liberty to correct Dr. Dall's mistake, for it does not contravene any of the existing rules of the International Commission, only one of the recommendations, and Article 30*g* says: "Any subsequent author may select the type, and such selection is not subject to change."

On the other hand, the selection made in this case is not in accord with the principle of priority, for it leads to the displacement of a generic name which has priority over another *available* name. This is a result which ought not to be allowed by the Rules of Nomenclature, i.e., it should not be possible for Megerle to be deprived of his right to the perpetuation of the genus *Tapes*, if a later generic creation can be displaced in its stead.

Consequently I think that the direction to select a type by the

[1] Trans. Wagner Free Inst. Sc., vol. iii, pt. vi, p. 1222, 1903.

elimination of species in order of their separation from the original genus should be made a rule, and not merely a 'recommendation'. I hold that *V. ala-avis* is the only proper type of Bolten's *Paphia*, and that the name *Tapes* has been wrongly displaced by Dr. Dall.

Pectunculus, Da Costa.

The name *Pectunculus* is one of the oldest names which have been applied to shells, and the most ancient use of it (by Lister in 1685) was for the *Chama glycimeris* of Belon, which was called *Arca glycimeris* by Linnæus and *Pectunculus pilosus* by Lamarck in 1799. The general adoption of the Lamarckian nomenclature secured a long continuance for the application of the name to the *Arca glycimeris* group, but when a more strict observance of priority came into vogue the name *Axinæa* (Poli, 1777) was used by some for this group. Eventually, however, Dr. Dall, rejecting Poli's names, pointed out that Da Costa had described this group in 1778 under the name of *Glycimeris*, which consequently should take the place of Lamarck's *Pectunculus*.

Unfortunately Da Costa had also used the name *Pectunculus*, employing it for a number of British shells which Linnæus has placed in his *Venus* group. I do not see how the recognition of Da Costa's *Pectunculus* can be avoided, for the nomenclature in his *British Conchology* of 1778 is unquestionably binomial; he clearly defines his genus, and then describes the species which he assigns to it, and some one of these species must be chosen as the type of his genus.

Everyone, however, seems to have shrunk from reviving the name *Pectunculus*; even Dr. Dall[1] only remarks that this assemblage of Da Costa's "is practically synonymous with *Venus*", and thus dismisses it from further consideration. But the name cannot be rejected for such a reason. Under the rules of the International Commission it must be recognized as a generic name because Da Costa was a binomial author and his use of the name has priority. The facts that it contained a mixture of modern genera and that it had been subsequently applied to another group of shells do not invalidate it. Having adopted the *Glycimeris* of Da Costa as a valid name, Dr. Dall ought certainly to have adopted his other genera *Pectunculus* and *Cuneus* when he was dealing with the nomenclature of the Veneridæ. As he did not do so, I think these names should be established by the selection of types as soon as possible.

There can be little doubt that for some reason or other Da Costa was prejudiced against Linnæus and his nomenclature, and that he thought himself quite at liberty to alter this nomenclature, either by using current names with a different application or by inventing new names. He also felt no obligation to adopt even the specific names used by Linnæus, so that we find him proposing new names for all the species which he refers to his genus *Pectunculus*. The following is a list of

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[1] Trans. Wagner Free Inst. Sc., *supra cit.*

these species, together with their Linnean equivalents, and the genera to which they have subsequently been referred:—

	Specific Names.		Modern Genera.
	Da Costa's.	*Linnean.*	
1.	*P. crassus.*	= *V. islandica.*	*Cyprina*, Lam., 1812.
2.	*P. glaber.*	= *V. chione.*	*Callista*, Mörch, 1853.
3.	*P. strigatus.*	= *V. verrucosa.*	*Cytherea*, Bolten (Dall).
4.	*P. capillaceus.*	= *V. exoleta.*	*Dosinia*, Scopoli, 1777.
5.	*P. fasciatus.*		*Chione*, Megerle, 1811.
6.	*P. vetula.*	? *V. paphia.*	*Chione*, Megerle.
7.	*P. striatulus.*	*V. gallina.*	*Chione*, Megerle.
8.	*P. sulcatus.*		*Astarte*, Sow., 1816.
9.	*P. membranaceus.*	*V. casina.*	*Circomphalus*, Mörch.
10.	*P. depressior.*	= *V. crassa* (Gmel.).	*Tellina* (*Arcopagia*).
11.	*P. truncatus.*		? *Tellina* (not figured).

Out of these eleven species one has to be chosen as the type of the genus *Pectunculus* (Da Costa), and the next question is to consider what principle should guide us in the selection.

I think this is a case in which we should seek a way of effecting the least disturbance of current nomenclature, and in which one of the least important of the groups represented should bear the name because in the first place the author could and ought to have used the Linnean name *Venus* for his genus, and secondly because it is only the rigid application of modern rules of nomenclature which makes it necessary to revive the name *Pectunculus* at all. It would have been much more satisfactory if the name, once displaced, could have been abandoned for ever; and I think everyone will admit that the application of the name to some other large genus, which has hitherto been known by a different name, would be very irritating and inconvenient.

Since, however, we have to recognize the name *Pectunculus*, let us make choice of a species which will represent a section or subgenus of a previously established genus, i.e. either *Venus exoleta* of Linnæus or the *V. crassa* of Gmelin. The first of these would make *Pectunculus* replace the *Orbiculus* of Megerle, which is a section of *Dosinia* (Scopoli); if the second were chosen it would become a subgenus of *Tellina* in the place of *Arcopagia* (Leach, 1827). On the whole I prefer to select *P. capillaceus* of Da Costa as the type, and to relegate the name *Pectunculus* to a mere section of *Dosinia*, so that its use may trouble no one except those who make a special study of that genus and its subdivisions.

Cuneus (Da Costa).

This is another name which has been used for different genera or subgenera by different authors, and the proper application of which has never yet been determined.

The earliest post-Linnean and binomial use of it was by Da Costa in 1778, who defined a genus *Cuneus* and assigned to it five British species. Of these two belong to the *Tapes* of Megerle (*T. decussatus*, Linn., and *T. rhomboides*, Penn.), one to *Venerupis*, and two to *Donax*. Under existing rules one of these species must be chosen to perpetuate

the name of *Cuneus*, and we have in the first place to ascertain whether any such selection has been made.

In 1811 Megerle von Muhlfeldt proposed a genus *Cuneus*, but it had no connexion with that of Da Costa, his type being *Venus Meroe*, Linn., which is referable to the genus *Sunetta* of Link (1807), so that Megerle's *Cuneus* has no standing.

In 1851 Gray (List of British Mollusca, p. 46) very properly tried to restrict the name to part of Da Costa's heterogeneous group, but unfortunately he chose *Donax vittatus* as type, which belongs to the *denticulatus* section of *Donax*, separated by Scopoli in 1777 under the name of *Chion* with *D. denticulatus* as example. Gray's selection is therefore invalid, and the name of *Cuneus* must be transferred to some other of Da Costa's species.

On the other hand, in 1853, Mörch adopted the name *Cuneus* (Da Costa) for a group of *Tapes* which included *pullastra*, *decussatus*, *rhomboides*, and others, a heterogeneous assemblage of which no type was indicated.

In 1857 the Messrs. Adams, who always followed the practice of regarding the first species of an author as his type, assigned the name of *Cuneus* (Da Costa) to a restricted group of *Tapes* in which they included his first species, *V. decussatus*. It is evident that they considered this to be his type, though they did not definitely designate it as such, merely giving his generic name to the group.

The only other author to whom we need refer is Dr. Dall, who had the opportunity in 1900 to 1903 of settling the matter and of establishing the genus *Cuneus*, but most unaccountably he avoided doing so. In his "Tertiary Fauna of Florida",[1] under the head of *Donax*, after remarking that the *Donax* of Linnæus was a heterogeneous group he wrote: "Da Costa's *Cuneus* was a similar assembly, a substitution rather than a dismemberment of the Linnæan group, and may be regarded as a strict synonym of *Donax*." This statement is not only incorrect, but, even if it were true, Da Costa's name would still have to be used for some part of this "heterogeneous assembly".

In the continuation of his monograph under Veneridæ, Dr. Dall made the unfortunate mistake already referred to of assigning the name *Paphia* to the *Tapes* group, and under the heading of *Paphia* (p. 1322) he has this curious reference in the synonymy: "*Cuneus*, da Costa, Brit. Conch., p. 202, 1778, not of da Costa, Elem. Conch., 1776 (*Trigonia*), nor *Cuneus*, Deshayes, 1853."

From this one would suppose that he rejected *Cuneus* (Da Costa, 1778), because that of Da Costa, 1776, was different. But Dr. Dall knew very well that Da Costa was not binomial in his first book, and consequently there was no occasion even to mention it. Further, if he admitted that *Cuneus* (Da Costa, 1778) was synonymous with *Paphia* (Bolten), then the former has priority as the generic name.

Thus, I am left to consider the question of choosing a type to perpetuate the name of *Cuneus*, and am faced with a curious difficulty

[1] Trans. Wagner Free Inst. Sc., vol. iii, p. 965, 1900.

in consequence of the mistake made by Dr. Dall with regard to the proper type of *Paphia* (Bolten).

The selection should be made by the elimination of species according to the date of the genera to which they belong. If Dr. Dall's application of the name *Paphia* were allowed to stand, the relative ages of the genera concerned would be in the following order: *Donax* (Linnæus, 1758), *Paphia* (Bolten, 1798), *Venerupis* (Lamarck, 1799). If, however, the *Paphia* of Bolten was wrongly determined by Dall, and should not be applied to the *Tapes* group, then the order of the genera concerned would be *Donax* (Linn.), *Venerupis* (Lam.), and *Tapes* (Megerle, 1811), with the result that *Tapes* would be replaced by *Cuneus*.

Under these circumstances it seems best not to make any definite selection of a type for *Cuneus* until the doubt about the proper choice of a type for *Paphia* has been decided. Meantime it is clear that the rules of the Commission do not yet afford sufficient guidance for the proper selection of types, and that it is premature to enact that any selection should be absolutely unalterable. There should, at least, be the possibility of an appeal to the Commission itself.

Postscript. Since the above was written Dr. Hoyle has announced that a proposal has been submitted to the International Commission on Zoological Nomenclature that a certain number of commonly used generic names should be excepted from the application of the Law of Priority, and that an Official List of these names should be published. Such a plan would solve many difficulties, and should have the approval of a majority of the members of our Society, as it has of the Zoological Society. It appears to be the only legitimate way in which Conchologists can avoid having a large number of the familiar Lamarckian names displaced by the unfamiliar and often uncouth names of Bolten. It will solve all the difficulties raised in this paper if it be simply enacted that the genera *Corbis* and *Pectunculus* of Lamarck and *Tapes* of Megerle are exempted from change; and if *Callista* (Mörch after Poli), with *C. chione* as type, finds a place in the official list there need be no more trouble about the proper type of *Paphia* or about the prior claim of *Callista* (Leach).